

humanVR1 gene with translation of open reading frame

Input file Fchrb87a6.seq; Output File Fchrb87a6.tra  
Sequence length 3909

GTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAA  
CGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGG  
GCAGTGAGCGCAACGCACTTGCAGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGC  
GCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACT  
GCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTG  
AGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTTAATGTGAGTTAGCTCACTCATTAGGCACCCCAGGCTTTACAC  
TTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATT  
ACGCCAAGCTCTAATACGACTCACTATAGGGAAAGCTGGTACGCCTGCAGGTACCGGTCCGGAATTCCCGGGTCGACCC  
ACGCGTCCGAAAACACACCTCTCTGCTGTGGGAAGACTGTGCAATGGCACAGCCGAGAGCTTGGTTTGGGAGGTTGAA  
GTGCTCTGGGGAGAATTCTAGATCATCCTCAGAAAAGCCTTGCCCTGGTGTCTTACCAGAAAAACGTCTCCCAATCAC  
CCAGAAAAGCTGTCCACAGTAGTCCCCCTTATCCACGGGTGTCACTTTCATGGGTTCAGTTATTTGCGGTCAACCAC  
GGTCTGCCAATATTAAATGGAAAATTCTTCAAACAGTTCCCAAGTTTTCCCTTGTGCATTGTTCTGAGCAGTGTGATGA  
AGAGTCTCTGCCGTGCCATCTGGGATGCAAACCGTCCCTGTGTCCCCACGTCCAGGCCGTAGATGCTCCCCGCCGGTC  
AGTCACTTAGTCGTGATCGCCCGTCTGGTATCACAGTGCTTCTGTTTCAAGTTGCACACTGGGCCACAGAGGATCCA

M	K	K	W	S	S	T	D	L	G	T	A	A	D	P	L	Q	K		18	
GCAAGG	ATG	AAG	AAA	TGG	AGC	AGC	ACA	GAC	TTG	GGG	ACA	GCT	GCG	GAC	CCA	CTC	CAA	AAG	54	
D	T	C	P	D	P	L	D	G	D	P	N	S	R	P	P	P	A	K	P	38
GAC	ACC	TGC	CCA	GAC	CCC	CTG	GAT	GGA	GAC	CCT	AAC	TCC	AGG	CCA	CCT	CCA	GCC	AAG	CCC	114
Q	L	P	T	A	K	S	R	T	R	L	F	G	K	G	D	S	E	E	A	58
CAG	CTC	CCC	ACG	GCC	AAG	AGC	CGC	ACC	CGG	CTC	TTT	GGG	AAG	GGT	GAC	TCG	GAG	GAG	GCT	174
F	P	V	D	C	P	H	E	E	G	E	L	D	S	C	P	T	I	T	V	78
TTC	CCG	GTG	GAT	TGC	CCC	CAC	GAG	GAA	GGT	GAG	TTG	GAC	TCC	TGC	CCG	ACC	ATC	ACA	GTG	234
S	P	V	I	T	I	Q	R	P	G	D	G	P	T	G	A	R	L	L	S	98
AGC	CCT	GTT	ATC	ACC	ATC	CAG	AGG	CCA	GGA	GAC	GGC	CCC	ACC	GGT	GCC	AGG	CTG	CTG	TCC	294
Q	D	S	V	A	A	S	T	E	K	T	L	R	L	Y	D	R	R	S	I	118
CAG	GAC	TCT	GTC	GCC	GCC	AGC	ACC	GAG	AAG	ACC	CTC	AGG	CTC	TAT	GAT	CGC	AGG	AGT	ATC	354
F	E	A	V	A	Q	N	N	C	Q	D	L	E	S	L	L	L	F	L	Q	138
TTT	GAA	GCC	GTT	GCT	CAG	AAT	AAC	TGC	CAG	GAT	CTG	GAG	AGC	CTG	CTG	CTC	TTC	CTG	CAG	414

FIGURE 1A

K	S	K	K	H	L	T	D	N	E	F	K	D	P	E	T	G	K	T	C	158
AAG	AGC	AAG	AAG	CAC	CTC	ACA	GAC	AAC	GAG	TTC	AAA	GAC	CCT	GAG	ACA	GGG	AAG	ACC	TGT	474
L	L	K	A	M	L	N	L	H	D	G	Q	N	T	T	I	P	L	L	L	178
CTG	CTG	AAA	GCC	ATG	CTC	AAC	CTG	CAC	GAC	GGA	CAG	AAC	ACC	ACC	ATC	CCC	CTG	CTC	CTG	534
E	I	A	R	Q	T	D	S	L	K	E	L	V	N	A	S	Y	T	D	S	198
GAG	ATC	GCG	CGG	CAA	ACG	GAC	AGC	CTG	AAG	GAG	CTT	GTC	AAC	GCC	AGC	TAC	ACG	GAC	AGC	594
Y	Y	K	G	Q	T	A	L	H	I	A	I	E	R	R	N	M	A	L	V	218
TAC	TAC	AAG	GGC	CAG	ACA	GCA	CTG	CAC	ATC	GCC	ATC	GAG	AGA	CGC	AAC	ATG	GCC	CTG	GTG	654
T	L	L	V	E	N	G	A	D	V	Q	A	A	A	H	G	D	F	F	K	238
ACC	CTC	CTG	GTG	GAG	AAC	GGA	GCA	GAC	GTC	CAG	GCT	GCG	GCC	CAT	GGG	GAC	TTC	TTT	AAG	714
K	T	K	G	R	P	G	F	Y	F	G	E	L	P	L	S	L	A	A	C	258
AAA	ACC	AAA	GGG	CGG	CCT	GGA	TTC	TAC	TTC	GGT	GAA	CTG	CCC	CTG	TCC	CTG	GCC	GCG	TGC	774
T	N	Q	L	G	I	V	K	F	L	L	Q	N	S	W	Q	T	A	D	I	278
ACC	AAC	CAG	CTG	GGC	ATC	GTG	AAG	TTC	CTG	CTG	CAG	AAC	TCC	TGG	CAG	ACG	GCC	GAC	ATC	834
S	A	R	D	S	V	G	N	T	V	L	H	A	L	V	E	V	A	D	N	298
AGC	GCC	AGG	GAC	TCG	GTG	GGC	AAC	ACG	GTG	CTG	CAC	GCC	CTG	GTG	GAG	GTG	GCC	GAC	AAC	894
T	A	D	N	T	K	F	V	T	S	M	Y	N	E	I	L	M	L	G	A	318
ACG	GCC	GAC	AAC	ACG	AAG	TTT	GTG	ACG	AGC	ATG	TAC	AAT	GAG	ATT	CTG	ATG	CTG	GGG	GCC	954
K	L	H	P	T	L	K	L	E	E	L	T	N	K	K	G	M	T	P	L	338
AAA	CTG	CAC	CCG	ACG	CTG	AAG	CTG	GAG	GAG	CTC	ACC	AAC	AAG	AAG	GGA	ATG	ACG	CCG	CTG	1014
A	L	A	A	G	T	G	K	I	G	V	L	A	Y	I	L	Q	R	E	I	358
GCT	CTG	GCA	GCT	GGG	ACC	GGG	AAG	ATC	GGG	GTC	TTG	GCC	TAT	ATT	CTC	CAG	CGG	GAG	ATC	1074
Q	E	P	E	C	R	H	L	S	R	K	F	T	E	W	A	Y	G	P	V	378
CAG	GAG	CCC	GAG	TGC	AGG	CAC	CTG	TCC	AGG	AAG	TTC	ACC	GAG	TGG	GCC	TAC	GGG	CCC	GTG	1134
H	S	S	L	Y	D	L	S	C	I	D	T	C	E	K	N	S	V	L	E	398
CAC	TCC	TCG	CTG	TAC	GAC	CTG	TCC	TGC	ATC	GAC	ACC	TGC	GAG	AAG	AAC	TCG	GTG	CTG	GAG	1194
V	I	A	Y	S	S	S	E	T	P	N	R	H	D	M	L	L	V	E	P	418
GTG	ATC	GCC	TAC	AGC	AGC	AGC	GAG	ACC	CCT	AAT	CGC	CAC	GAC	ATG	CTC	TTG	GTG	GAG	CCG	1254
L	N	R	L	L	Q	D	K	W	D	R	F	V	K	R	I	F	Y	F	N	438
CTG	AAC	CGA	CTC	CTG	CAG	GAC	AAG	TGG	GAC	AGA	TTC	GTC	AAG	CGC	ATC	TTC	TAC	TTC	AAC	1314
F	L	V	Y	C	L	Y	M	I	I	F	T	M	A	A	Y	Y	R	P	V	458
TTC	CTG	GTC	TAC	TGC	CTG	TAC	ATG	ATC	ATC	TTC	ACC	ATG	GCT	GCC	TAC	TAC	AGG	CCC	GTG	1374
D	G	L	P	P	F	K	M	E	K	I	G	D	Y	F	R	V	T	G	E	478
GAT	GGC	TTG	CCT	CCC	TTT	AAG	ATG	GAA	AAA	ATT	GGA	GAC	TAT	TTC	CGA	GTT	ACT	GGA	GAG	1434
I	L	S	V	L	G	G	V	Y	F	F	F	R	G	I	Q	Y	F	L	Q	498
ATC	CTG	TCT	GTG	TTA	GGA	GGA	GTC	TAC	TTC	TTT	TTC	CGA	GGG	ATT	CAG	TAT	TTC	CTG	CAG	1494

FIGURE 1 (cont'd)  $\beta$

R	R	P	S	M	K	T	L	F	V	D	S	Y	S	E	M	L	F	F	L	518
AGG	CGG	CCG	TCG	ATG	AAG	ACC	CTG	TTT	GTG	GAC	AGC	TAC	AGT	GAG	ATG	CTT	TTC	TTT	CTG	1554
Q	S	L	F	M	L	A	T	V	V	L	Y	F	S	H	L	K	E	Y	V	538
CAG	TCA	CTG	TTC	ATG	CTG	GCC	ACC	GTG	GTG	CTG	TAC	TTC	AGC	CAC	CTC	AAG	GAG	TAT	GTG	1614
A	S	M	V	F	S	L	A	L	G	W	T	N	M	L	Y	Y	T	R	G	558
GCT	TCC	ATG	GTA	TTC	TCC	CTG	GCC	TTG	GGC	TGG	ACC	AAC	ATG	CTC	TAC	TAC	ACC	CGC	GGT	1674
F	Q	Q	M	G	I	Y	A	V	M	I	E	K	M	I	L	R	D	L	C	578
TTC	CAG	CAG	ATG	GGC	ATC	TAT	GCC	GTC	ATG	ATA	GAG	AAG	ATG	ATC	CTG	AGA	GAC	CTG	TGC	1734
R	F	M	F	V	Y	I	V	F	L	F	G	F	S	T	A	V	V	T	L	598
CGT	TTC	ATG	TTT	GTC	TAC	ATC	GTC	TTC	TTG	TTC	GGG	TTT	TCC	ACA	GCG	GTG	GTG	ACG	CTG	1794
I	E	D	G	K	N	D	S	L	P	S	E	S	T	S	H	R	W	R	G	618
ATT	GAA	GAC	GGG	AAG	AAT	GAC	TCC	CTG	CCG	TCT	GAG	TCC	ACG	TCG	CAC	AGG	TGG	CGG	GGG	1854
P	A	C	R	P	P	D	S	S	Y	N	S	L	Y	S	T	C	L	E	L	638
CCT	GCC	TGC	AGG	CCC	CCC	GAT	AGC	TCC	TAC	AAC	AGC	CTG	TAC	TCC	ACC	TGC	CTG	GAG	CTG	1914
F	K	F	T	I	G	M	G	D	L	E	F	T	E	N	Y	D	F	K	A	658
TTC	AAG	TTC	ACC	ATC	GGC	ATG	GGC	GAC	CTG	GAG	TTC	ACT	GAG	AAC	TAT	GAC	TTC	AAG	GCT	1974
V	F	I	I	L	L	L	A	Y	V	I	L	T	Y	I	L	L	L	N	M	678
GTC	TTC	ATC	ATC	CTG	CTG	CTG	GCC	TAT	GTA	ATT	CTC	ACC	TAC	ATC	CTC	CTG	CTC	AAC	ATG	2034
L	I	A	L	M	G	E	T	V	N	K	I	A	Q	E	S	K	N	I	W	698
CTC	ATC	GCC	CTC	ATG	GGT	GAG	ACT	GTC	AAC	AAG	ATC	GCA	CAG	GAG	AGC	AAG	AAC	ATC	TGG	2094
K	L	Q	R	A	I	T	I	L	D	T	E	K	S	F	L	K	C	M	R	718
AAG	CTG	CAG	AGA	GCC	ATC	ACC	ATC	CTG	GAC	ACG	GAG	AAG	AGC	TTC	CTT	AAG	TGC	ATG	AGG	2154
K	A	F	R	S	G	K	L	L	Q	V	G	Y	T	P	D	G	K	D	D	738
AAG	GCC	TTC	CGC	TCA	GGC	AAG	CTG	CTG	CAG	GTG	GGG	TAC	ACA	CCT	GAT	GGC	AAG	GAC	GAC	2214
Y	R	W	C	F	R	V	D	E	V	N	W	T	T	W	N	T	N	V	G	758
TAC	CGG	TGG	TGC	TTC	AGG	GTG	GAC	GAG	GTG	AAC	TGG	ACC	ACC	TGG	AAC	ACC	AAC	GTG	GGC	2274
I	I	N	E	D	P	G	N	C	E	G	V	K	R	T	L	S	F	S	L	778
ATC	ATC	AAC	GAA	GAC	CCG	GGC	AAC	TGT	GAG	GGC	GTC	AAG	CGC	ACC	CTG	AGC	TTC	TCC	CTG	2334
R	S	S	R	V	S	G	R	H	W	K	N	F	A	L	V	P	L	L	R	798
CGG	TCA	AGC	AGA	GTT	TCA	GGC	ACA	CAC	TGC	AAG	AAC	TTT	GCC	CTG	GTC	CCC	CTT	TTA	AGA	2394
E	A	S	A	R	D	R	Q	S	A	Q	P	E	E	V	Y	L	R	Q	F	818
GAG	GCA	AGT	GCT	CGA	GAT	AGG	CAG	TCT	GCT	CAG	CCC	GAG	GAA	GTT	TAT	CTG	CGA	CAG	TTT	2454
S	G	S	L	K	P	E	D	A	E	V	F	K	S	P	A	A	S	G	E	838
TCA	GGG	TCT	CTG	AAG	CCA	GAG	GAC	GCT	GAG	GTC	TTC	AAG	AGT	CCT	GCC	GCT	TCC	GGG	GAG	2514
K	*																			840
AAG	TGA																			2520

FIGURE 1 (cont'd)C

GGACGTCACGCAGACAGCACTGTCAACACTGGGCCTTAGGAGACCCCGTTGCCACGGGGGGGCTGCTGAGGGAACACCAG  
TGCTCTGTCAGCAGCCTGGCCTGGTCTGTGCCTGCCCAGCATGTTCCCAAATCTGTGCTGGACAAGCTGTGGGAAGCGT  
TCTTGGAAGCATGGGGAGTGATGTACATCCAACCGTCACTGTCCCCAAGTGAATCTCCTAACAGACTTTCAGGTTTTTA  
CTCACTTTACTAAAAAAAAAAAAAAAAAGGGCGGCCGCTTA

FIGURE 1 (cont'd) *D*

humanVR1 gene with translation of open reading frame

Input file Fchrb87a6.seq; Output File Fchrb87a6.tra  
Sequence length 3909

GTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAA  
CGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGG  
GCAGTGAGCGCAACGCACTTTCGGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGC  
GCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACT  
GCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTGCGGGCAGTG  
AGCGCAACGCACTGCGGGCAGTGAGCGCAACGCACTTAATGTGAGTTAGCTCACTCATTAGGCACCCCAGGCTTTACAC  
TTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATT  
ACGCCAAGCTCTAATACGACTCACTATAGGGAAAGCTGGTACGCCTGCAGGTACCGGTCCGGAATTTCCGGGTTCGACCC  
ACGCGTCCGAAAACACACCTCTCTGCTGTGGGAAGACTGTGCAATGGCACAGCCGCAGAGCTTGGTTTGGGAGGTTGAA  
GTGCTCTGGGGAGAATTTCGTAGATCATCCTCAGAAAAGCCTTGCCCTGGTGTTCCTACCAGAAAACGTCTCCCAATCAC  
CCAGAAAAGCTGTCCACAGTAGTCCCCCTTATCCACGGGTGTCACTTTCCATGGGTTCAGTTATTTGCGGTCAACCAC  
GGTCTGCCAATATTAAATGGAAAATTCTTCAAACAGTTCCCAAGTTTTCCCTTGTGCATTGTTCTGAGCAGTGTGATGA  
AGAGTCTCTGCCGTGCCATCTGGGATGCAAACCGTCCCTGTGTCCCCACGTCCAGGCCGTAGATGCTCCCCGCCGGTC  
AGTCACTTAGTCGTGATCGCCCCGTCTGGTATCACAGTGCCTTCTGTTTCAGGTTGCACACTGGGCCACAGAGGATCCA

M	K	K	W	S	S	T	D	L	G	T	A	A	D	P	L	Q	K		18	
GCAAGG	ATG	AAG	AAA	TGG	AGC	AGC	ACA	GAC	TTG	GGG	ACA	GCT	GCG	GAC	CCA	CTC	CAA	AAG	54	
D	T	C	P	D	P	L	D	G	D	P	N	S	R	P	P	P	A	K	P	38
GAC	ACC	TGC	CCA	GAC	CCC	CTG	GAT	GGA	GAC	CCT	AAC	TCC	AGG	CCA	CCT	CCA	GCC	AAG	CCC	114
Q	L	P	T	A	K	S	R	T	R	L	F	G	K	G	D	S	E	E	A	58
CAG	CTC	CCC	ACG	GCC	AAG	AGC	CGC	ACC	CGG	CTC	TTT	GGG	AAG	GGT	GAC	TCG	GAG	GAG	GCT	174
F	P	V	D	C	P	H	E	E	G	E	L	D	S	C	P	T	I	T	V	78
TTG	CCG	GTC	CAA	TGC	CCC	CAC	GAG	GAA	GGT	GAG	TTG	GAC	TTG	AGC	CCG	ACC	ATC	ACA	GTC	234
S	P	V	I	T	I	Q	R	P	G	D	G	P	T	G	A	R	L	L	S	98
AGC	CCT	GTT	ATC	ACC	ATC	CAG	AGG	CCA	GGA	GAC	GGC	CCC	ACC	GGT	GCC	AGG	CTG	CTG	TCC	294
Q	D	S	V	A	A	S	T	E	K	T	L	R	L	Y	D	R	R	S	I	118
CAG	GAC	TCT	GTC	GCC	GCC	AGC	ACC	GAG	AAG	ACC	CTC	AGG	CTC	TAT	GAT	CGC	AGG	AGT	ATC	354
F	E	A	V	A	Q	N	N	C	Q	D	L	E	S	L	L	L	F	L	Q	138
TTT	GAA	GCC	GTT	GCT	CAG	AAT	AAC	TGC	CAG	GAT	CTG	GAG	AGC	CTG	CTG	CTC	TTC	CTG	CAG	414

FIGURE 1A

K	S	K	K	H	L	T	D	N	E	F	K	D	P	E	T	G	K	T	C	158
AAG	AGC	AAG	AAG	CAC	CTC	ACA	GAC	AAC	GAG	TTC	AAA	GAC	CCT	GAG	ACA	GGG	AAG	ACC	TGT	474
L	L	K	A	M	L	N	L	H	D	G	Q	N	T	T	I	P	L	L	L	178
CTG	CTG	AAA	GCC	ATG	CTC	AAC	CTG	CAC	GAC	GGA	CAG	AAC	ACC	ACC	ATC	CCC	CTG	CTC	CTG	534
E	I	A	R	Q	T	D	S	L	K	E	L	V	N	A	S	Y	T	D	S	198
GAG	ATC	GCG	CGG	CAA	ACG	GAC	AGC	CTG	AAG	GAG	CTT	GTC	AAC	GCC	AGC	TAC	ACG	GAC	AGC	594
Y	Y	K	G	Q	T	A	L	H	I	A	I	E	R	R	N	M	A	L	V	218
TAC	TAC	AAG	GGC	CAG	ACA	GCA	CTG	CAC	ATC	GCC	ATC	GAG	AGA	CGC	AAC	ATG	GCC	CTG	GTG	654
T	L	L	V	E	N	G	A	D	V	Q	A	A	A	H	G	D	F	F	K	238
ACC	CTC	CTG	GTG	GAG	AAC	GGA	GCA	GAC	GTC	CAG	GCT	GCG	GCC	CAT	GGG	GAC	TTC	TTT	AAG	714
K	T	K	G	R	P	G	F	Y	F	G	E	L	P	L	S	L	A	A	C	258
AAA	ACC	AAA	GGG	CGG	CCT	GGA	TTC	TAC	TTC	GGT	GAA	CTG	CCC	CTG	TCC	CTG	GCC	GCG	TGC	774
T	N	Q	L	G	I	V	K	F	L	L	Q	N	S	W	Q	T	A	D	I	278
ACC	AAC	CAG	CTG	GGC	ATC	GTG	AAG	TTC	CTG	CTG	CAG	AAC	TCC	TGG	CAG	ACG	GCC	GAC	ATC	834
S	A	R	D	S	V	G	N	T	V	L	H	A	L	V	E	V	A	D	N	298
AGC	GCC	AGG	GAC	TCG	GTG	GGC	AAC	ACG	GTG	CTG	CAC	GCC	CTG	GTG	GAG	GTG	GCC	GAC	AAC	894
T	A	D	N	T	K	F	V	T	S	M	Y	N	E	I	L	M	L	G	A	318
ACG	GCC	GAC	AAC	ACG	AAG	TTT	GTG	ACG	AGC	ATG	TAC	AAT	GAG	ATT	CTG	ATG	CTG	GGG	GCC	954
K	L	H	P	T	L	K	L	E	E	L	T	N	K	K	G	M	T	P	L	338
AAA	CTG	CAC	CCG	ACG	CTG	AAG	CTG	GAG	GAG	CTC	ACC	AAC	AAG	AAG	GGA	ATG	ACG	CCG	CTG	1014
A	L	A	A	G	T	G	K	I	G	V	L	A	Y	I	L	Q	R	E	I	358
GCT	CTG	GCA	GCT	GGG	ACC	GGG	AAG	ATC	GGG	GTC	TTG	GCC	TAT	ATT	CTC	CAG	CGG	GAG	ATC	1074
Q	E	P	E	C	R	H	L	S	R	K	F	T	E	W	A	Y	G	P	V	378
CAG	GAG	CCC	GAG	TGC	AGG	CAC	CTG	TCC	AGG	AAG	TTC	ACC	GAG	TGG	GCC	TAC	GGG	CCC	GTG	1134
H	S	S	L	Y	D	L	S	C	I	D	T	C	E	K	N	S	V	L	E	398
CAC	TCC	TCG	CTG	TAC	GAC	CTG	TCC	TGC	ATC	GAC	ACC	TGC	GAG	AAG	AAC	TCG	GTG	CTG	GAG	1194
V	I	A	Y	S	S	S	E	T	P	N	R	H	D	M	L	L	V	E	P	418
GTG	ATC	GCC	TAC	AGC	AGC	AGC	GAG	ACC	CCT	AAT	CGC	CAC	GAC	ATG	CTC	TTG	GTG	GAG	CCG	1254
L	N	R	L	L	Q	D	K	W	D	R	I	V	K	K	I	F	Y	F	E	438
CTG	AAC	CGA	CTC	CTG	CAG	GAC	AAG	TGG	GAC	AGA	TTC	GTC	AAG	CGC	ATC	TTC	TAC	TTC	AAC	1314
F	L	V	Y	C	L	Y	M	I	I	F	T	M	A	A	Y	Y	R	P	V	458
TTC	CTG	GTC	TAC	TGC	CTG	TAC	ATG	ATC	ATC	TTC	ACC	ATG	GCT	GCC	TAC	TAC	AGG	CCC	GTG	1374
D	G	L	P	P	F	K	M	E	K	I	G	D	Y	F	R	V	T	G	E	478
GAT	GGC	TTG	CCT	CCC	TTT	AAG	ATG	GAA	AAA	ATT	GGA	GAC	TAT	TTC	CGA	GTT	ACT	GGA	GAG	1434
I	L	S	V	L	G	G	V	Y	F	F	F	R	G	I	Q	Y	F	L	Q	498
ATC	CTG	TCT	GTG	TTA	GGA	GGA	GTC	TAC	TTC	TTT	TTC	CGA	GGG	ATT	CAG	TAT	TTC	CTG	CAG	1494

FIGURE 1B

R	R	P	S	M	K	T	L	F	V	D	S	Y	S	E	M	L	F	F	L	518
AGG	CGG	CCG	TCG	ATG	AAG	ACC	CTG	TTT	GTG	GAC	AGC	TAC	AGT	GAG	ATG	CTT	TTC	TTT	CTG	1554
Q	S	L	F	M	L	A	T	V	V	L	Y	F	S	H	L	K	E	Y	V	538
CAG	TCA	CTG	TTC	ATG	CTG	GCC	ACC	GTG	GTG	CTG	TAC	TTC	AGC	CAC	CTC	AAG	GAG	TAT	GTG	1614
A	S	M	V	F	S	L	A	L	G	W	T	N	M	L	Y	Y	T	R	G	558
GCT	TCC	ATG	GTA	TTC	TCC	CTG	GCC	TTG	GGC	TGG	ACC	AAC	ATG	CTC	TAC	TAC	ACC	CGC	GGT	1674
F	Q	Q	M	G	I	Y	A	V	M	I	E	K	M	I	L	R	D	L	C	578
TTC	CAG	CAG	ATG	GGC	ATC	TAT	GCC	GTC	ATG	ATA	GAG	AAG	ATG	ATC	CTG	AGA	GAC	CTG	TGC	1734
R	F	M	F	V	Y	I	V	F	L	F	G	F	S	T	A	V	V	T	L	598
CGT	TTC	ATG	TTT	GTC	TAC	ATC	GTC	TTC	TTG	TTC	GGG	TTT	TCC	ACA	GCG	GTG	GTG	ACG	CTG	1794
I	E	D	G	K	N	D	S	L	P	S	E	S	T	S	H	R	W	R	G	618
ATT	GAA	GAC	GGG	AAG	AAT	GAC	TCC	CTG	CCG	TCT	GAG	TCC	ACG	TCG	CAC	AGG	TGG	CGG	GGG	1854
P	A	C	R	P	P	D	S	S	Y	N	S	L	Y	S	T	C	L	E	L	638
CCT	GCC	TGC	AGG	CCC	CCC	GAT	AGC	TCC	TAC	AAC	AGC	CTG	TAC	TCC	ACC	TGC	CTG	GAG	CTG	1914
F	K	F	T	I	G	M	G	D	L	E	F	T	E	N	Y	D	F	K	A	658
TTC	AAG	TTC	ACC	ATC	GGC	ATG	GGC	GAC	CTG	GAG	TTC	ACT	GAG	AAC	TAT	GAC	TTC	AAG	GCT	1974
V	F	I	I	L	L	L	A	Y	V	I	L	T	Y	I	L	L	L	N	M	678
GTC	TTC	ATC	ATC	CTG	CTG	CTG	GCC	TAT	GTA	ATT	CTC	ACC	TAC	ATC	CTC	CTG	CTC	AAC	ATG	2034
L	I	A	L	M	G	E	T	V	N	K	I	A	Q	E	S	K	N	I	W	698
CTC	ATC	GCC	CTC	ATG	GGT	GAG	ACT	GTC	AAC	AAG	ATC	GCA	CAG	GAG	AGC	AAG	AAC	ATC	TGG	2094
K	L	Q	R	A	I	T	I	L	D	T	E	K	S	F	L	K	C	M	R	718
AAG	CTG	CAG	AGA	GCC	ATC	ACC	ATC	CTG	GAC	ACG	GAG	AAG	AGC	TTC	CTT	AAG	TGC	ATG	AGG	2154
K	A	F	R	S	G	K	L	L	Q	V	G	Y	T	P	D	G	K	D	D	738
AAG	GCC	TTC	CGC	TCA	GGC	AAG	CTG	CTG	CAG	GTG	GGG	TAC	ACA	CCT	GAT	GGC	AAG	GAC	GAC	2214
Y	R	W	C	F	R	V	D	E	V	N	W	T	T	W	N	T	N	V	G	758
TAC	CGG	TGG	TGC	TTC	AGG	GTG	GAC	GAG	GTG	AAC	TGG	ACC	ACC	TGG	AAC	ACC	AAC	GTG	GGC	2274
I	I	N	E	D	P	G	N	C	E	G	V	K	R	T	L	S	F	S	L	778
ATC	ATC	AAC	GAA	GAC	CCG	GGC	AAC	TGT	GAG	GGC	GTC	AAG	CGC	ACC	CTG	AGC	TTC	TCC	CTG	2334
R	S	S	R	V	S	G	R	H	W	K	N	F	A	L	V	P	L	L	R	798
CGG	TCA	AGC	ACG	CTT	TCA	GGC	AGA	CAC	TGG	AAG	AAC	TTT	CCC	CGG	GTC	CCC	CTT	TTC	AGA	2394
E	A	S	A	R	D	R	Q	S	A	Q	P	E	E	V	Y	L	R	Q	F	818
GAG	GCA	AGT	GCT	CGA	GAT	AGG	CAG	TCT	GCT	CAG	CCC	GAG	GAA	GTT	TAT	CTG	CGA	CAG	TTT	2454
S	G	S	L	K	P	E	D	A	E	V	F	K	S	P	A	A	S	G	E	838
TCA	GGG	TCT	CTG	AAG	CCA	GAG	GAC	GCT	GAG	GTC	TTC	AAG	AGT	CCT	GCC	GCT	TCC	GGG	GAG	2514
K	*																			840
AAG	TGA																			2520

FIGURE 1c

GGACGTCACGCAGACAGCACTGTCAACACTGGGCCTTAGGAGACCCCGTTGCCACGGGGGGCTGCTGAGGGAACACCAG  
TGCTCTGTCAGCAGCCTGGCCTGGTCTGTGCCTGCCCAGCATGTTCCCAAATCTGTGCTGGACAAGCTGTGGGAAGCGT  
TCTTGGAAGCATGGGGAGTGATGTACATCCAACCGTCACTGTCCCCAAGTGAATCTCCTAACAGACTTTCAGGTTTTTA  
CTCACTTTACTAAAAAAAAAAAAAAAAAGGGCGGCCGCTTA

**FIGURE 1D**